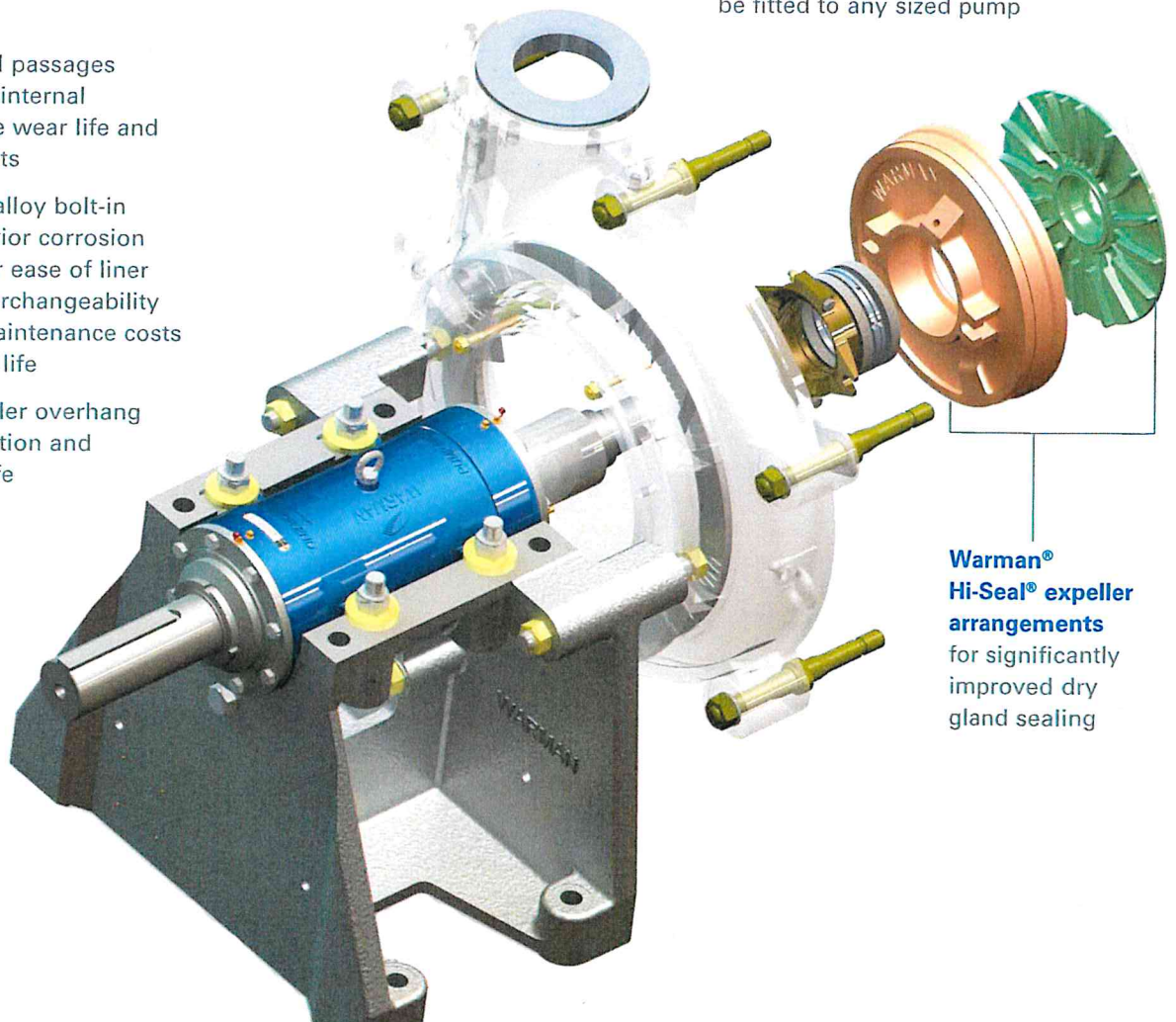


The versatile, fully lined Warman® AH® pump offers a wide range of configurations allowing the pump to be tailored to the customer's specific application

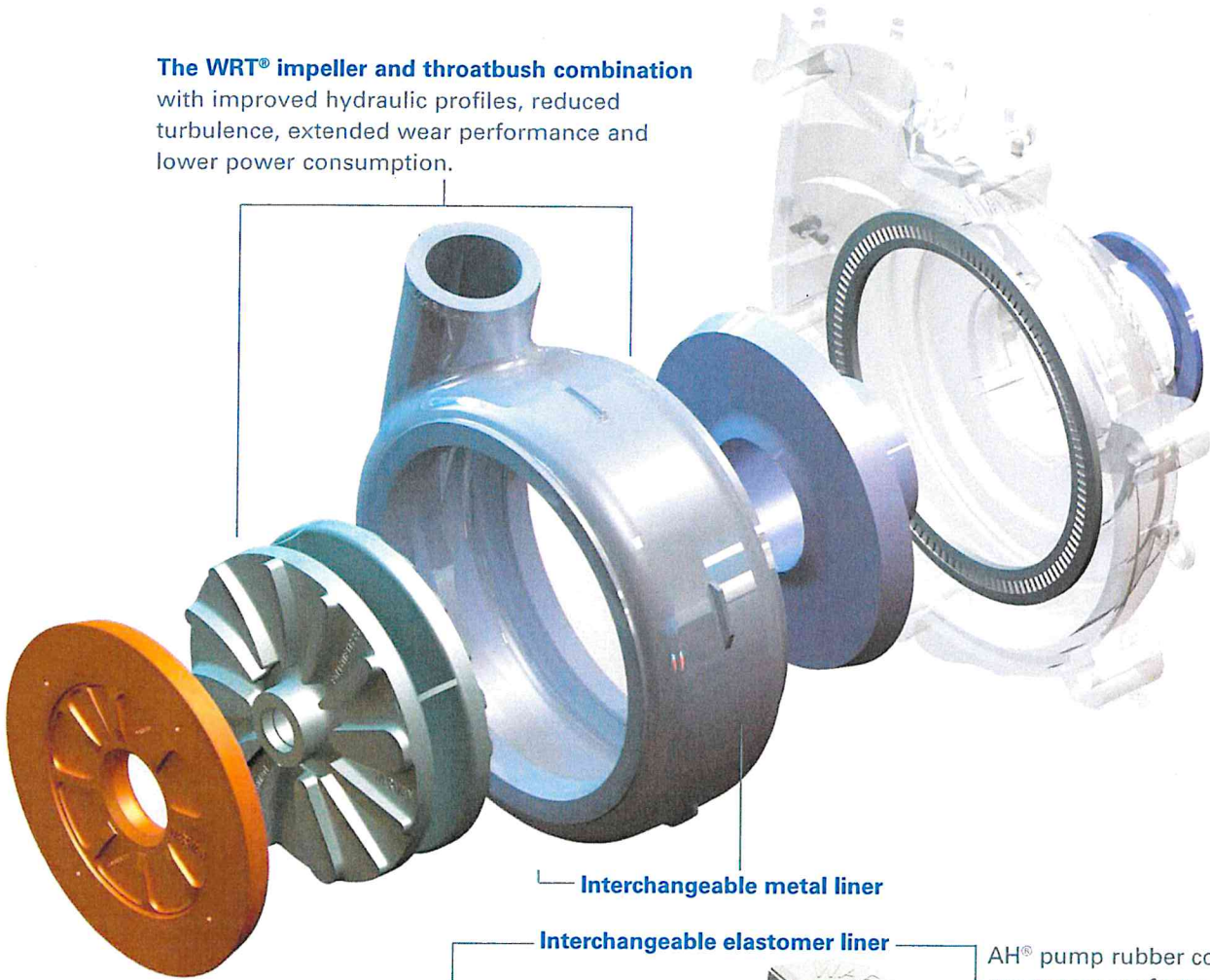
Design features and benefits

- Heavy duty construction with through-bolt design provides ease of maintenance and minimal downtime
- Ductile iron fully lined casing provides durability, strength, safety, and long service life
- Large diameter, slow turning, high efficiency impellers designed to achieve maximum wear life and low operating costs
- Large, open internal passages designed to reduce internal velocities, maximise wear life and lower operating costs
- Thick elastomer or alloy bolt-in liners provide superior corrosion resistance plus offer ease of liner change-out and interchangeability to reduce overall maintenance costs and maximise wear life
- Minimal shaft/impeller overhang reduces shaft deflection and increases packing life
- Cartridge-style bearing assembly allows for maintenance in a clean environment without removal of the pump, resulting in reliable operation and prolonged bearing life
- Grease or oil lubrication bearing assembly options offer ease of maintenance and reduced downtime
- Optional dry running shaft seal reduces or eliminates flush water requirements
- Effective expeller prolongs packing life while reducing or eliminating flush water requirement
- Now featuring Warman® WRT® throatbush and impeller combination designed to enhance efficiency and improve wear performance
- Interchangeability of seal arrangements – full flush, low flow, centrifugal, or mechanical seals may be fitted to any sized pump



**Warman®
Hi-Seal® expeller
arrangements**
for significantly
improved dry
gland sealing

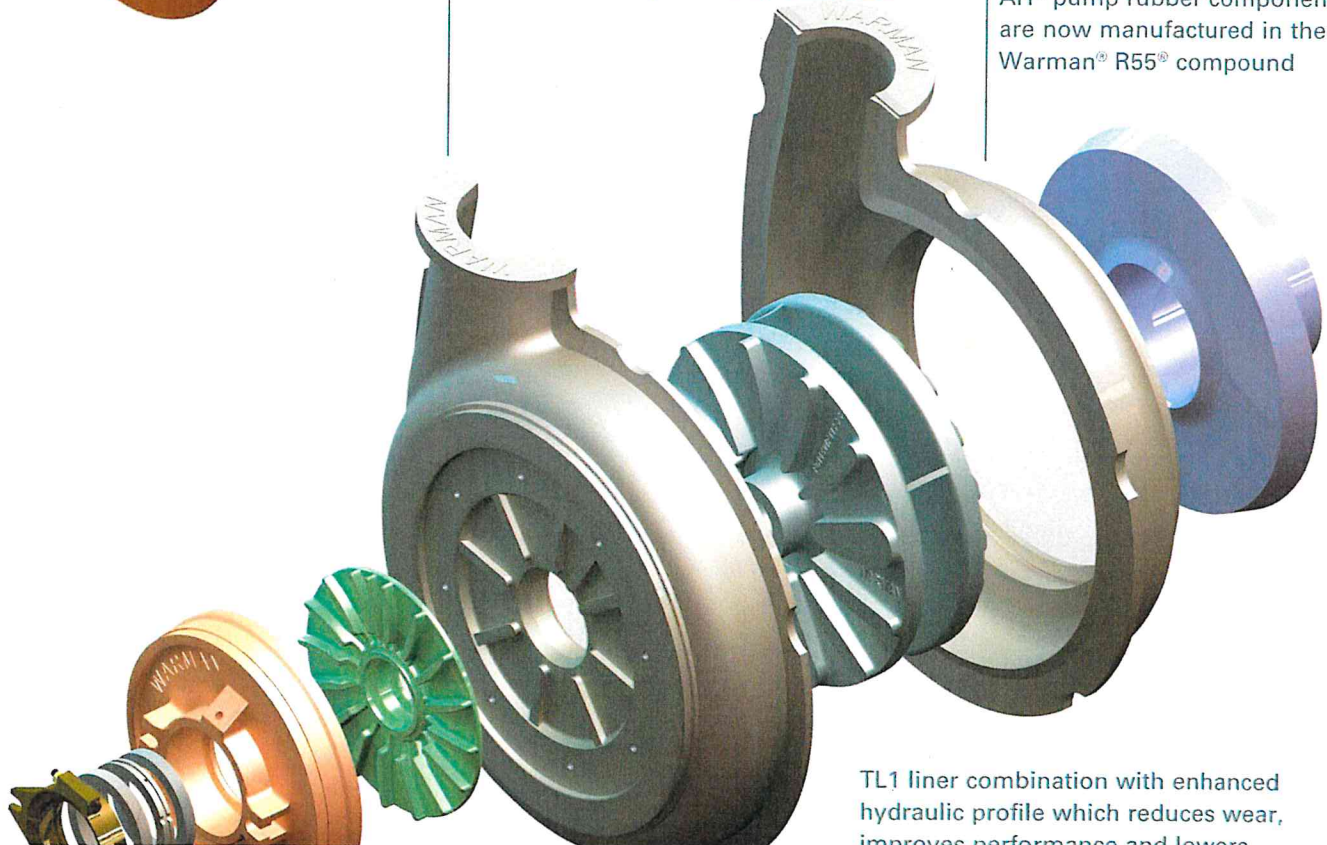
The WRT® impeller and throatbush combination with improved hydraulic profiles, reduced turbulence, extended wear performance and lower power consumption.



Interchangeable metal liner

Interchangeable elastomer liner

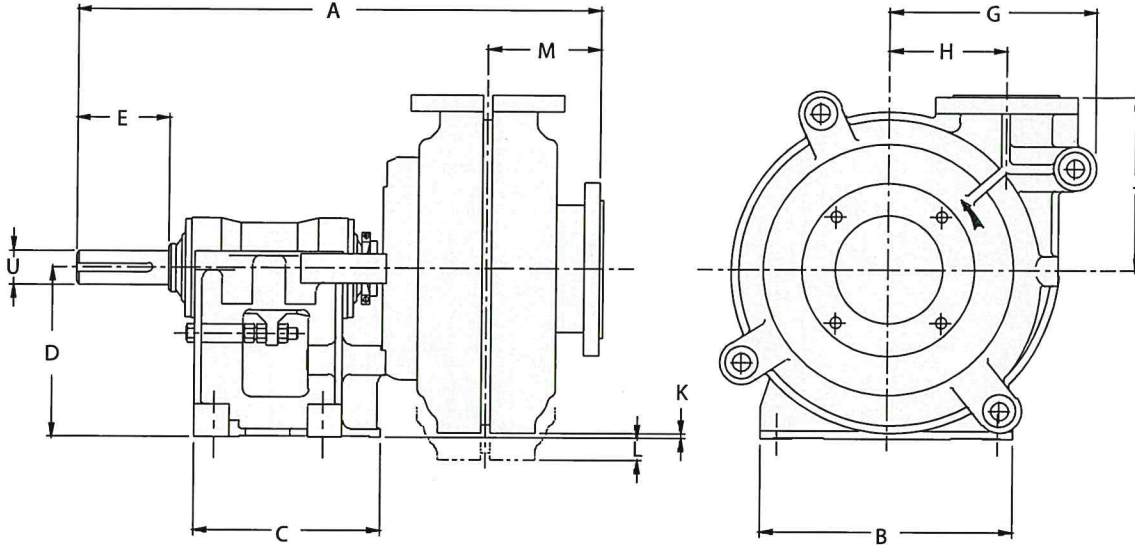
AH® pump rubber components are now manufactured in the Warman® R55® compound



TL1 liner combination with enhanced hydraulic profile which reduces wear, improves performance and lowers

Warman® AH®, AHP and AHPP slurry pump - outline dimensions

To be used for preliminary selection only. All measurements in mm.



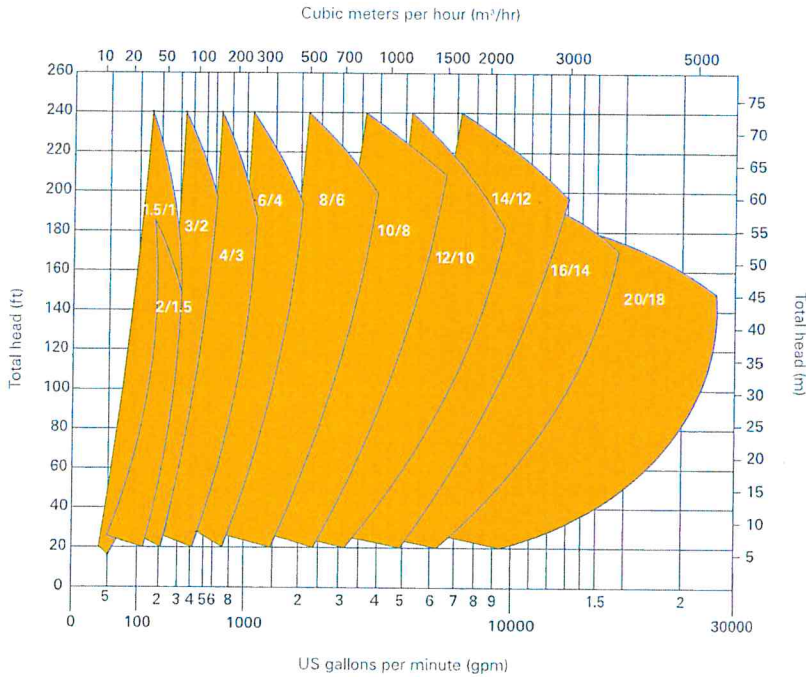
Pump Size	A	B	C	D	U	Key Size	E	G	H	J	K	L	M	Approximate mass (kg)	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	metal	rubber
1.5/1 BAH	583	295	248	197	28	8X7	79	181	98	171	46	-	106	90	75
2/1.5 BAH	596	295	248	197	28	8X7	79	203	114	184	33	-	115	100	85
3/2 CAH	777	406	311	254	42	12X8	122	238	138	210	67	-	156	200	160
4/3 CAH	848	406	311	254	42	12X8	121	292	149	262	20	-	192	300	230
4/3 DAH	948	492	364	330	65	18X11	152	292	149	262	100	-	192	380	280
6/4 DAH	1028	492	364	330	65	18X11	150	406	229	338	12	-	228	660	420
6/4 EAH	1188	622	448	457	80	22X14	220	406	229	338	139	-	228	810	620
6/4 EEAHP	1240	622	448	457	85	22X14	222	435	229	460	49	-	230	1110	980
8/6 EAH	1318	622	448	457	80	22X14	222	551	318	460	-	62	292	1510	980
8/6 FAH	1518	857	635	610	100	28X16	279	551	318	460	91	-	304	1650	1160
8/6 FFAHPP	1569	857	635	610	120	32X18	290	615	318	615	16	-	304	2920	2480
10/8 FAH	1650	990	705	610	100	28X16	279	667	419	635	-	12	334	2650	1970
10/8 STAH	1753	1150	780	650	120	32X18	280	667	419	635	28	-	334	3450	3210
10/8 STAHP	1755	1150	780	650	120	32X18	280	760	419	735	-	69	334	5020	4530
10/8TAHPP	2136	1150	1040	650	150	36X20	350	760	419	735	-	70	334	5850	5150
12/10 FAH	1721	990	705	610	100	28X16	279	749	464	673	-	104	381	4080	3040
12/10 STAH	1827	1150	780	650	120	32X18	280	749	464	673	-	64	381	4470	3730
12/10 TAH	2204	1150	1040	650	150	36X20	350	749	464	673	-	64	381	5200	4570
*12/10 TAHP	2190	1150	1040	650	150	36X20	350	950	464	800	-	130	382	7520	6800
*12/10 TAHPP	2242	1150	1040	650	150	36X20	350	950	464	800	-	119	420	8280	7050
14/12 FAH	1777	990	705	610	100	28X16	279	944	629	832	-	264	406	5900	4180
14/12 STAH	1879	1150	780	650	120	32X18	280	944	629	832	-	224	406	5490	4870
*14/12TAHPP	2336	1150	1040	650	150	36X20	350	1100	629	930	-	248	485	12020	10500
16/14 TUAH	2320	1460	1050	900	150	36X20	350	1048	660	889	-	84	451	10560	7860
*16/14TUAHPP	2424	1460	1050	900	150	36X20	350	1300	660	1035	-	140	540	16280	14470
20/18 TUAH	2475	1460	1050	900	150	36X20	350	1414	940	1230	-	417	580	17760	12890
*20/18TUAHP	2475	1460	1050	900	150	36X20	350	1600	940	1230	-	305	580	20450	14150
*20/18TUAHPP	2475	1460	1050	900	150	36X20	350	1600	940	1230	-	305	580	23140	17230

Note: U dimensions and key sizes are in millimeters. All others are in inches.

*These pump sizes have additional mounting feet on the casing.

Warman® AH® slurry pump - quick selection guide

Approximate clear water performance - to be used for preliminary selection only.



Warman® AH® pumps upgraded with WRT® impeller and throatbush combination improve wear life and lower power consumption

Background

The operational wear life of the Warman® AH® pumps installed in DMS ferrosilicon feed service for a customer located in the Pilanesburg Mountain region in South Africa was falling short and they were looking for improvement.

In order to meet the customer's needs the existing AH® pumps were upgraded with the Warman® WRT® impeller and throatbush combination to improve wear life and lower power consumption

Results

The Warman® AH® pumps fitted with the WRT® impeller and throatbush combination demonstrated improved wear life in this trial compared to a pump fitted with standard AH® impeller and throatbush components.

- Wear life extended by 1,944 hours using the WRT® impeller and throatbush combination
- Increase in power cost savings
- Decrease in maintenance downtime
- Stopped the pump cavitating

Duty information

Flow (m³/h)	1062
TH (m)	42
Slurry (SG)	3.2
Solid (SG)	6.8
Percent solids (Cw)	19.5
Solids d50 (mm)	20

Wear life comparison

AH® 10/8 FF	
impeller	1296 hours
throatbush	1296 hours
WRT® 10/8 FF	
impeller	3240 hours
throatbush	3240 hours

Performance per pump	WRT® 10/8 FF	AH® 10/8 FF
kW absorbed	296	313
Pump RPM	692	704
Pump efficiency %	65.51	62.00
NPSH available	3.16	3.16
NPSH required by pump	2.11	3.30